

# AC-172N-1790

High-speed, Computer-controlled Buttonholing Indexer

◎ "Applicability to vertical stripe patterns has been improved."

The newly-developed sub-clamp mechanism prevents slippage of the material to enable accurate and consistent buttonholing.

◎ "Increased productivity achieved by the preset mechanism."

The preset mechanism



AC-172N-1790S-A1

# AC-172N-1790

The AC-172N-1790 is a high-speed, computer-controlled buttonholing indexer which achieves higher productivity and consistent buttonholing of top-center plaits.

# High-speed, Computer-controlled Buttonholing Indexer AC-172N-1790



The AC-172N-1790 is the newly-developed next-generation buttonholing indexer, which comes with the highly evaluated high-speed machine head LBH-1790 and is provided as standard with **the preset mechanism to increase productivity.**

In addition, **the new facility** called **sub-clamp mechanism** helps achieve both accurate and consistent buttonholing quality.

Applicability to vertical stripe patterns has been improved.

## The preset mechanism helps increase productivity!



What is the preset mechanism?

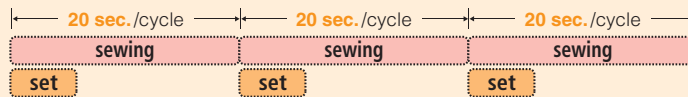
It is the facility that allows placement of the material to be sewn next on the preset board while the sewing machine is engaged in the sewing of the current material.

Since the automatic buttonholing indexer carries out buttonholing successively, the operator conventionally has had waiting time while the sewing machine is in operation (for buttonholing). JUKI's preset mechanism allows the operator to place the subsequent garment body to be sewn on the preset board while the sewing machine is still engaged in the sewing of the current garment body (so-called overlapping work). Consequently, the operator now can use his/her waiting time effectively during operation to achieve increased productivity.

Provided with the preset mechanism  
**AC-172N-1790**  
One operator operates  
**one sewing machine.**



The length of time required to place the subsequent garment body on the sewing machine can be reduced by carrying out the procedure, by using the preset mechanism, while the sewing machine is still engaged in the sewing of the current garment body.



The length of time required to place a garment body on the sewing machine can be reduced by  
**5 sec.**  
for each operating cycle.

(Comparison with an indexer which is not provided with the preset mechanism)

Not provided with the preset mechanism  
One operator operates  
**one sewing machine.**



The subsequent garment body cannot be placed on the sewing machine until the sewing machine finishes the sewing of the current garment body.



**Extended waiting time takes place.**

The sewing machine availability is further increased if one operator operates two or more sewing machines.

Work waiting time is reduced even further when one operator operates two or more sewing machines, thereby increasing productivity.

Provided with the preset mechanism  
**AC-172N-1790**  
One operator operates  
**2 sewing machines.**



One operator finishes the buttonholing of 2 pcs. in one 20 sec. cycle.

**10 sec./pc.**

Provided with the preset mechanism  
**AC-172N-1790**  
One operator operates  
**3 sewing machines.**



One operator finishes the buttonholing of 3 pcs. in one 21 sec. cycle.

**7 sec./pc.**

**Productivity is increased.**

2 sewing machines	Provided with the preset mechanism	2,400 pcs.	<b>+480 pcs.</b>
	Not provided with the preset mechanism	1,920 pcs.	
3 sewing machines	Provided with the preset mechanism	3,429 pcs.	<b>+549 pcs.</b>
	Not provided with the preset mechanism	2,880 pcs.	

Condition: Time required for placement of a garment body on the sewing machine: 5 sec.  
Time required for buttonholing: 20 sec. (five buttonholes spaced at 100 mm intervals with 113 stitches)  
Travel between sewing machines in the case of one operator operating two or more sewing machines: 2 sec.

Difference in productivity between the sewing machine provided with the preset mechanism and one without it (Allowance of 20 % per 8 hours)

JUKI ECO PRODUCTS

The AC-172N-1790 is an eco-friendly product which complies with JUKI ECO PRODUCTS standards for protecting the environment.

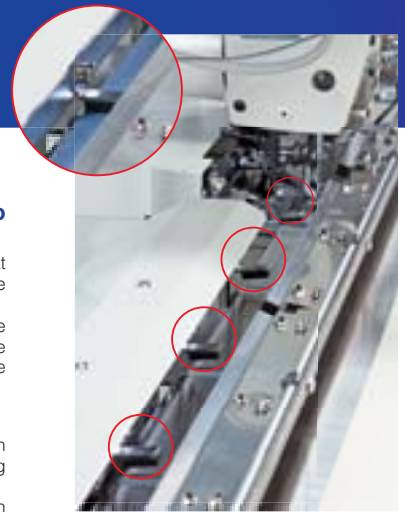


- The sewing machine complies with the "Juki Group Green Procurement Guidelines" on the use of hazardous substances, which is stricter than other restrictions, such as those of the RoHS Directive.
- The AC-172N-1790 uses more common parts than the conventional models. In addition, recycling rate is also increased.
- As compared with the conventional model, the AC-172N-1790 reduces noise by 1.5dB.

For details of JUKI ECO PRODUCTS, refer to: [http://www.juki.co.jp/eco\\_e/index.html](http://www.juki.co.jp/eco_e/index.html)

\*The RoHS Directive is an EU Directive limiting the use of 6 hazardous substances (lead, hexavalent chromium, mercury, cadmium, PBB and PBDE) in electrical and electronic equipment.  
The Juki Green Procurement Guideline is the voluntarily established criteria to eliminate not only the aforementioned six substances, but also other ones which also adversely affect the environment.

# Technology that helps achieve **consistent quality**



## **New facility**

### **Sub-clamp device which enhances applicability of the sewing machine to vertical-strip patterns.**

The sewing machine comes with a newly-developed mechanism which prevents slippage of the material at the time of its delivery from the preset board to the sewing machine. This helps increase applicability of the sewing machine to buttonhole vertical-striped garments.

The independent sub-clamp mechanism of the carriage unit on the sewing machine head securely clamp the material upon delivery of the material from the preset board to the sewing machine, thereby preventing the material from slipping out of position. As a result, the sewing machine is allowed to achieve accurate buttonholing of top-center plaits with consistency.

### **High-performance indexer mechanism**

A stepping motor controls material feed amounts in increments of 0.1 mm to feed materials with both consistency and accuracy. The machine is able to sew 1 to 20 buttonholes and stores 20 different stitching patterns in its memory.

The sewing machine is provided as standard with a facility that moves the carriage unit synchronously with the operation of the sewing machine during sewing, thereby enabling accurate and unailing feed of the material while preventing material slack.

### **The sewing machine comes with the LBH-1790 head, which is highly evaluated in terms of functions and performance.**

The AC-172N-1790 is equipped with the highly-evaluated LBH-1790 as its machine head. The needle thread tension is changed over without fail at bank parts and bartacking parts of a buttonhole by means of the highest sewing speed of 4,200 sti/min and the unique active tension (electronic thread tension control mechanism), thereby achieving beautiful-shaped buttonholes.

In addition, fastening stitches prevent the seams from unraveling at the end of sewing. It is also possible to program other stitching styles such as double buttonholing.

### **Indexer operation panel**

The adjusting keys which are frequently operated by the operator for adjusting buttonholing are arranged in a similar configuration to the standard panel for the LBH-1790. The operator is therefore able to directly adjust the buttonholing to achieve improved operability.



Operation Panel



LBH-1790

## **Provided as standard**

### **STACKER**

It is a device for automatically stacking garment bodies after having been buttonholed. (Space-saving type stacker built inside the main body)

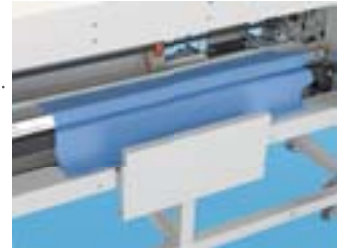
The stacker, which clamps even narrow garment bodies without fail, increases the efficiency of the material taking/stacking operation, thereby helping further increase productivity.

### **KNEE SWITCH**

This switch is operated with the knee to actuate the sewing machine (sub-clamp device).

The knee switch can be turned on by the operator with his/her knee while he/she still holds a garment body on the sewing machine with both hands. As a result, the operator is able to place the material securely on the sewing machine to reduce the time required for accurate positioning of the material. Needless to say, a hand switch is also provided.

In addition, if the operator turns on the switch after having placed the material on the sewing machine, the sub-clamp device will automatically bring the subsequent material to the sewing position after the completion of buttonholing of the current material to allow the sewing machine to immediately start the next buttonholing. This function works effectively, especially in cases where the operator is operating two or more sewing machines or is carrying out other work simultaneously.



STACKER / KNEE SWITCH

## **Options**

### **MARKING LIGHT**

This is the marking light that confirms vertical stripe patterns of the top-center plait. The marking light assists the operator with the garment placement work to enable accurate positioning of a vertically-striped garment body, thereby helping improve the finished product quality and increase productivity.

### **CLOTH EDGE SENSOR**

The cloth edge sensor is a device for detecting the material edge (the collar side). Even if the operator fails to correctly position the material on the sewing machine, the cloth edge sensor detects the material edge (the collar side) to keep the distance from the upper edge of the material to the first buttonhole at a preset distance.

### **SUPPORT CLAMP**

The support clamp is a device for clamping the edge (collar side) of a garment body. By clamping the edge of a garment body with this device, the operator is able to use both hands as desired. When this device is used in combination with the marking light, ease and accuracy of placement of patterned materials on the sewing machine can be increased.



MARKING LIGHT



SUPPORT CLAMP

## **Oil stains on the sewing product are eliminated.**

Thanks to our advanced dry-head technology, no lubrication is required except for the hook section. This eliminates oil stains on the sewing product. Only a minute-quantity of clean oil is fed to the hook section from the oil tank. The machine can be completely changed into a dry-head machine by replacing the hook with an optional non-lubricated hook.

### **High-speed, Computer-controlled Buttonholing Indexer**

## **AC-172N-1790**



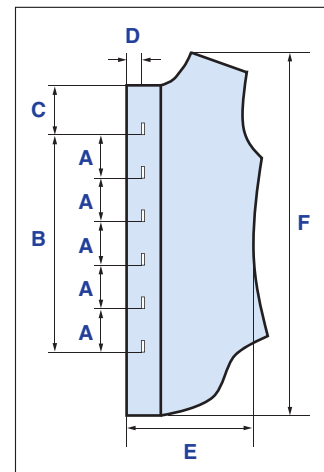
## SPECIFICATIONS

Model name	AC-172N-1790
Machine head	LBH-1790(exclusive machine head for AC)
Max. sewing speed	4,200 sti/min (normal:3,600 sti/min)
Sewing dimension	Standard : Width 4mm x length 25mm (Max. Width 6mm x length 120mm by repiacing parts)
Cloth trimming length	6.4~19.1mm (1/4~3/4 inch)
Lift of the work clamp foot	Max. 14mm
Needle	DPx5 #11J~#14J (Needle installed at the time of delivery #11J)
Feed system	Stepping motor
Feed direction	Right (for men's garments) or left (for ladies' garments)
Unit of feed amount	0.1mm
Number of patterns that can be input	20 patterns
Number of buttonholes	1~20 pcs.
Power requirement	3-phase 200~240V, Single-phase 220~240V
Power consumption	1,000VA
Compressed air and air consumption	0.5MPa (5kg/cm <sup>2</sup> ) 240NI/min
Dimensions	1,910(W) x 850(D) x 920mm(H) (Up to the preset table surface)
Total weight	300kg
Presetting device	Provided as standard
Stacker	Provided as standard
Pair stacking	Possible

\*\*sti/min" stands for "Stitches per Minute."

## APPLICATIONS SIZE OF CLOTH

A	Buttonhole interval	0~610mm (0.1mm steps)
B	Total feeding amount	610mm
C	Distance from the top end of the garment body to the first buttonhole	MAX.140mm
D	Distance from the front side end of the garment body to the buttonhole	7~21mm
E	Applicable size of the garment body to be sewn	Width:220~420mm Length:400~880mm
F		



## Non-lubricated hook (option)

Name of part	Part No.
RP hook (asm.)	40006345
RP bobbin case	40006349
Hook sleeve (asm.)	13729603
Screws	SS8660612TP(4pcs.)

\*By the installation of nonlubricated hook, the machine is changed to be a fully dry-head machine. (In this case, the maximum sewing speed will be 3,300sti/min)

## WHEN YOU PLACE ORDERS

Please note when placing orders, that the model name should be written as follows:

**AC172N1790S**

Type	Code
Standard	S

Options			Code
MARKING LIGHT	CLOTH EDGE SENSOR	SUPPORT CLAMP	Code
—	—	—	ZZ
○	—	—	A1
○	○	—	A3
○	○	○	A4

Power supply	Code
3-phase 200~240V	D
Single-phase 220~240V	K

●To order, please contact your nearest JUKI distributor.



**JUKI CORPORATION HEAD OFFICE**  
An environmental management system to promote and conduct the following:  
(1) Eco-friendly development of products and technologies  
(2) Green procurement and green purchasing  
(3) Energy conservation (reduction in carbon-dioxide emissions)  
(4) Resource saving (reduction of papers purchased, etc.)  
(5) Reduction and recycling of waste  
in the activities of research, development, design, sales, distribution, and maintenance services of industrial sewing machines and industrial robots, etc., including sales and maintenance services of data entry systems.

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\* Specifications and appearance are subject to change without prior notice for improvement.  
\* Read the instruction manual before putting the machine into service to ensure safety.